

ABSTRACT

The present invention is to a safe, biodegradable trace metal binding system
5 that effectively delivers chromium, cobalt, copper, iron, manganese, molybdenum,
selenium and zinc to animals. The method of preparing an animal foodstuff
composition involves the steps of: providing transgenic algal cells comprising a
nucleotide sequence, the nucleotide sequence being capable of expressing a non-
native metal-binding protein in the transgenic algal cells; binding the metal-binding
10 protein with at least one metal so as to produce a metal-bound adduct of the metal-
binding protein; and admixing the metal-bound adduct with animal foodstuff. The
invention is also to a animal foodstuff composition comprising animal foodstuff and
transgenic algal cells expressing a non-native metal-binding protein in the transgenic
algal cells, such that the transgenic algal cells contain the metal-binding protein and the
15 metal-binding protein being bound to a metal.